Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) A light source comprising a microstructured optical element that receives and spectrally spreads the light from a primary light source, characterized in that the spectrally spread light traverses at least one further microstructured optical element.

2. (original) The light source as claimed in claim 1, characterized in that the microstructured optical element and/or the further microstructured optical element contains photonic band gap material.

3. (currently amended) The light source as claimed in ~~either of claims 1 and 2~~ claim 1, characterized in that the microstructured optical element and/or the further microstructured optical element are/is designed as optical fiber(s).

4. (original) The light source as claimed in claim 3, characterized in that the microstructured optical element and/or the further microstructured optical element have/has a taper (tapered fiber).

5. (original) The light source as claimed in claim 3, characterized in that the microstructured optical element and the further microstructured optical element merge into one another continuously.

6. (currently amended) The light source as claimed in ~~one of claims 1 to 5~~ claim 1, characterized in that the microstructured optical element and/or the further microstructured optical element are/is a photonic crystal fiber (microstructured fiber, holey fiber).

7. (currently amended) The light source as claimed in ~~one of claims 1 to 6~~ claim 1, characterized in that the microstructured optical element and the further microstructured optical element are spliced together.

8. (currently amended) The light source as claimed in ~~one of claims 1 to 5~~ claim 1, characterized in that the light that emerges from the microstructured optical element can be coupled into the further microstructured optical element with the aid of a lens arrangement.

9. (currently amended) The light source as claimed in ~~one of claims 1 to 8~~ claim 1, characterized in that the primary light source comprises a pulsed laser.

10. (currently amended) The light source as claimed in ~~one of claims 1 to 9~~ claim 1, characterized in that the light from the primary light source repeatedly traverses the microstructured optical element and/or the further microstructured optical element.

11. (currently amended) The light source as claimed in ~~one of claims 1 to 9~~ claim 1, characterized in that means are provided for selecting light components over at least one wavelength and/or at least one wavelength region.

12. (currently amended) The light source as claimed in ~~one of claims 1 to 11~~ claim 1, characterized by use in a flow cytometer or an endoscope or a chromatograph or a lithography apparatus.

13. (currently amended) A microscope having a light source as claimed in ~~one of claims 1 to 11~~ claim 1.

14. (currently amended) A scanning microscope having a light source as claimed in ~~one of claims 1 to 11~~ claim 1.

15. (original) The scanning microscope as claimed in claim 14, characterized in that the scanning microscope is a confocal scanning microscope and/or a double confocal scanning microscope and/or an STED scanning microscope and/or an STED-4Pi scanning microscope and/or a CARS scanning microscope.

16. (currently amended) A method for generating illuminating light, characterized by the following steps:

- generating spectrally spread light with the aid of a light source as claimed in ~~one of claims 1 to 11~~ claim 1,
- selecting at least one illuminating light wavelength and/or at least one illuminating light wavelength region, and
- splitting off the illuminating light of the at least one illuminating light wavelength and/or of the at least one illuminating light wavelength region from the spectrally spread light.

17. (original) The method as claimed in claim 16, characterized in that the illuminating light optically excites a sample.

18. (currently amended) The method as claimed in ~~either of claims 16 and 17~~ claim 16, characterized by the further step of:

- selecting at least one further illuminating light wavelength and/or at least one further illuminating light wavelength region, and
- splitting off further illuminating light of the at least one further illuminating light wavelength and/or of the at least one further illuminating light wavelength region from the spectrally spread light.

19. (original) The method as claimed in claim 18, characterized in that the further illuminating light effects a stimulated emission.

20. (currently amended) The use of the method as claimed in ~~one of claims 16 to 19~~ claim 16 in STED microscopy.

21. (currently amended) The use of the method as claimed in ~~one of claims 16 to 19~~ claim 16 for carrying out pump-probe experiments.